ABSTRACT

An occupant classification system is provided based upon the use of an array of electrical switches arranged between a seat trim and a reactive surface. The switches produce selective outputs signals as an engaging surface makes contact with one or more of the switches when an occupant occupies the seat. The output signals are interpreted into a control signal to distinguish between occupants for controlling an inflatable restraint system. The occupant classification system also includes a control structure which defines a distance between the array of switches and the engaging surface that is greater than zero when the seat is unoccupied so that the switches are insensitive to the initial forces applied to the seat through the seat trim. The distance between one or more of the switches and the engaging surface decreases to zero when the occupant occupies the seat to produce the selective output signals.